

A MISINTERPRETED FORMOSAN SPECIES,
EUPHORBIA CALONESIACA, SPEC. NOV.

LEON CROIZAT

HAYATA is the first botanist, it would seem, who has introduced *Euphorbia orientalis* L. into the flora of Formosa (Jour. Coll. Sci. Tokyo, 20³: 70. 1904). His indication has been accepted by Matsumura (Ind. Pl. Jap. 2: 304. 1912), Sasaki (List Pl. Form. 261. 1928), Masamune (Short Fl. Form. 119. 1936), and, as far as I know, by all Japanese authors.

That *E. orientalis* is not, and cannot be endemic to Formosa is clear. The Linnaean specific name, and the locality "in oriente" (Sp. Pl. 1: 460. 1753) refer to the Near, not to the Far East. The plant has the status of a near-relict in Armenia and in northern Persia (Boissier, Fl. Or. 4: 1100. 1879). Its characters are intermediate between those of the species represented by *E. bupleuroides* Desf., of northern Africa, and by *E. Bivonae* (Biv.) Steud., of the central Mediterranean region. Only two species that might be brought within this affinity, namely *E. prolifera* Ham. and *E. himalayensis* Klotzsch, *nec al.*, are found in Yunnan as elements of the Himalayan flora. Neither one is reported beyond the eastern boundary of that Chinese province.

Boissier saw the type (in DC. Prodr. 15²: 121. 1862, and l. c.) which, *vide* Jackson (Ind. Linn. Herb. 74. 1912), was in the Linnaean herbarium on or before 1753, and found that it agreed with the synonyms and the diagnosis of the publication. Other European botanists before and after Boissier, however, held it to be doubtful whether the Linnaean binomial applied to *E. ceratocarpa* Ten., which is endemic to southern Italy. Gussone who is usually well informed errs this time in stating that no specimen of *E. orientalis* is extant in the Linnaean herbarium (Fl. Sicul. Synop. 1: 543. 1842). Bertoloni confuses *E. orientalis* with *E. ceratocarpa* (Fl. Ital. 5: 75. 1842), as does Tornabene (Fl. Aetn. 3: 365. 1891). Parlatore, however, is of a different opinion (Fl. Ital. 4: 458. 1867), not unlike Fiori (Nuov. Fl. Anal. Ital. 2: 172. 1926). The confusion seems to have arisen because Sibthorp and Smith identified as *E. orientalis* (Prodr. Fl. Graec. 1: 330. 1806) a specimen presumably collected in the vicinity of Constantinople. Gussone recognized (l. c.) *E. ceratocarpa* in this specimen from the Sibthorp Herbarium. I

am inclined to believe, until the contrary is proved true, that the Sibthorpien specimen represents the species known to Stoianoff and Stefanoff (Fl. Bulg. 2: 722. 1925) as *E. soongarica*, a species being very similar to *E. ceratocarpa*.

The specimen of Szovits cited by Boissier (in DC. Prodr. 15²: 122. 1862) "prope Nakitschewan" is in the Gray Herbarium, where also is preserved a photograph of the Linnaean type of *E. orientalis*. The specimen of Linnaeus is excellent, and consists of two stems in anthesis. Although the caulinar leaves of these exsiccata suggest the broad lanceolate form of these of *E. ceratocarpa*, rather than the narrow-lanceolate shape of those of the specimen of Szovits, the identification is essentially established by the four peculiar obtuse mucronate involucels surrounding the cyathia. The polynomial of Van Royen cited by Linnaeus (l. c.) describes these involucels very well.

Knowing that the Formosan plant was not *E. orientalis* I tried in vain for a long time to secure a specimen of the species so named by Hayata. Unexpectedly an unidentified specimen of Faurie (Formosa No. 220, Takao, 1914¹) in the Gray Herbarium proved to agree perfectly with the description that Hayata (l. c.) gives of his *E. orientalis*. The locality of Faurie, Takao, I judge to be probably a mere orthographic variant of Taichu, of Hayata. The specimen, moreover, seems to fit the illustration of Boissier (Ic. Euph. pl. 72. 1866) which presumably is the document upon which Hayata established the determination. It is unfortunate, in a way, that the none too good illustration of *E. orientalis*, of the Icones, follows that of *E. Jolkinii*, which indeed is a Japanese endemic.

Euphorbia orientalis of Hayata, of course, is not the Linnaean plant. It is a segregate of the complex of species in the vicinity of *E. Jolkinii* Boiss. and *E. pekinensis* Rupr. in Maxim., and although near to the form of the latter which Hara understands as *vulgaris* (Jour. Jap. Bot. 11: 387. fig. 14a. 1935, sub *Galarrhoeo*) it has in my opinion an independent status. I propose it as ***Euphorbia calonesiaca***, nom. nov. (*E. orientalis* Hayata, non L.: Hayata l. c., et auct. jap. supra citat.).

The specific epithet is derived from "Ilha Formosa" of the Portuguese discoverers.

ARNOLD ARBORETUM,
HARVARD UNIVERSITY.

¹The plant in question never was described by Lévillé.